

Attachment D
IRA Work Plan: West Michigan Park

IRA Work Plan: West Michigan Park

Prepared for
The Dow Chemical Company

47 Building
Midland, Michigan

February 2004

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Acronyms and Abbreviations

Dow	The Dow Chemical Company
IRA	Interim Response Activity
MDCH	Michigan Department of Community Health
MDEQ	Michigan Department of Environmental Quality
MSU	Michigan State University
O&M	Operations and Maintenance
ppt	parts per trillion
RCRA	Resource Conservation and Recovery Act
RSGIS	Remote Sensing and Geographic Information Science
SOW	Statement of Work
TEQ	toxic equivalent
USDA	United States Department of Agriculture

IRA Work Plan: West Michigan Park

1. Introduction

On June 12, 2003, The Dow Chemical Company's (Dow) Midland Plant was issued a Resource Conservation and Recovery Act (RCRA) Operating License (the "License") by the Michigan Department of Environmental Quality (MDEQ). The License governs Dow's hazardous waste management activities at the Midland Plant, and also contains requirements for RCRA Corrective Action both onsite and offsite. The offsite provisions contained in Sections XI.B. and XI.G. of the License are the basis for this work plan. This work plan describes the Interim Response Actions (IRAs) that will be implemented in West Michigan Park.

West Michigan Park is located on the Tittabawassee River in Saginaw Township (Figure 1). The results of recent studies by MDEQ, *FINAL REPORT, Phase II Tittabawassee/Saginaw River, Dioxin Flood Plain Sampling Study, June 2003* were the basis of MDEQ's recommendation for the elimination of potential exposure in public areas in the floodplain such as may exist at parks and boat launches. As a result of these preliminary data, Dow has worked with park officials to develop this work plan to address potential exposure of park visitors to soils and sediments.

2. Site Location and Description

West Michigan Park is located in Saginaw County (Figure 1). Table 1 below summarizes some of the key features of West Michigan Park including size, facilities present, potential for seasonal flooding, and several other characteristics. The following sections further describe the park.

TABLE 1
Summary of Park Features
The Dow Chemical Company

Park Name	Size (acres)	Playgrounds	Ball fields	Other Ball Courts	Boat Launches	Fishing dock	Hiking Trails	Wooded areas	Restroom facilities	Portable Toilet
West Michigan	18.5	Y	Y	N	Y	Y	N	N	N	Y

3. Physical Description

This section includes a physical description of the park, emphasizing environmental and other features. Figure 2, associated with the description, is a recent aerial photo with overlays that identify park features such as playgrounds, ball fields, facilities, roads, boat launch areas, etc.

West Michigan Park is in Saginaw Township between Michigan Avenue and the Tittabawassee River. The park is operated by the Saginaw Township Parks and Recreation Department and is approximately 18 acres in size. The park is equipped with a fishing dock platform, river access, play equipment, soccer field, picnic areas, and open space.

The park is essentially a level field with an open expanse of grass for ball sports. Willow trees are along the riverbank and some also occupy a central portion of the site. Picnic tables are situated under these trees and a playground is to the northeast. A small boat access is available from the parking lot. A gravel path leads to the water's edge. The riverbank is relatively steep and vegetated with a sparse cover of herbaceous vegetation. Some evidence of foot traffic to the river exists.

The entire park lies within the estimated 100-year floodplain of the Tittabawassee River. The United States Department of Agriculture, (USDA) (USDA 1994) has identified soils within the park as Sloan-Ceresco complex. These soils are located on nearly level areas of alluvial planes and are very poorly drained.

An examination of historical aerial photos collected from Michigan State University (MSU) Remote Sensing and Geographic Information Science (RSGIS) did not identify significant construction activities or other soil disturbances from 1937 to 1980. Based on the aerial photos, it appears that the property was used primarily for agricultural purposes. The exception was a stand of trees on the river's edge and along the eastern portion of the property. These trees and agricultural use remained until sometime between 1963 and 1970. At that time, it appears that a driveway was constructed and many of the trees were removed. In addition, there appears to be a bare spot adjacent to the road in 1970. In the 1980 photo some areas of the ground surface appears to be bare.

Currently, land use surrounding this park is largely residential. A CSX railroad track forms the western edge of the property. Across the railroad tracks are apartment units and residential houses. In addition, a Saginaw Township wastewater treatment plant operates north of the park across the street. Residences also are located northeast of the property.

4. Current Conditions in the Parks

During the MDEQ study, soil samples were collected at three sample locations and are reported in MDEQ Phase II Report (MDEQ 2003). The dioxin and furan concentrations in parts per trillion (ppt) 2,3,7,8-TCDD toxic equivalent (TEQ) reported in the surface samples are shown on Figure 2.

5. Description of Completed Interim Response Activities (Hand Washing Stations)

Dow has already consulted with park management to evaluate the number and location for the installation and use of portable hand-washing stations in West Michigan Park as a

means of reducing the potential for exposure to contaminated soils and sediments. Dow has contracted, procured and had a hand-washing station installed at the location suggested and approved by park officials.

5.1 Servicing of Hand Washing Stations:

Wash stations were contracted through Johnnie-On-The-Spot of Freeland and Saginaw. All hand-washing stations are being serviced by Johnnie-On-The-Spot once per week. The wash stations are filled with fresh water sourced from the City of Saginaw water supply and carted to the stations by Johnnie-On-The-Spot. Gray water is removed and discarded at the Saginaw County water treatment facility. Based on suggestions from park managers, the hand-washing stations were removed from the parks in November and will be reinstalled in April.

5.2 Wash Station Signage

The signs at each wash station explaining the use of the station will be developed as described in Section 7.

6. Description of Planned Interim Measures

Following discussions with Saginaw Township officials responsible for West Michigan Park, the following IRAs have been identified for implementation in the park to reduce potential exposure to soils and sediments:

- Signage: Signs advising the general public of the potential for exposure to dioxins and furans in soils and sediments will be posted within West Michigan Park. MDEQ, Michigan Department of Community Health (MDCH) and Tittabawassee Township will determine the content, design, and arrange for the installation of the proposed warning signs. Development and posting of signage will be completed in accordance with the work plan entitled: "Interim Response Activity: Communications."
- Erosion Control: Trees sloping toward river along bank will be trimmed or removed to prevent bank damage caused by weight of trees.
- Cover: The small canoe and/or boat launch area will have additional stone placed to minimize erosion and cover any exposed soils. Access into parking areas near the wash station/rest room will have stone place over exposed soils. The actively used areas around the play areas (e.g., jungle gym, parallel bars, swings, soccer area, sand boxes) will be evaluated for the placement of cover materials such as vegetative cover, sand, or mulch. Portions of these areas will require augmentation of the existing grassy cover to limit or eliminate the potential for direct contact with exposed soils. These areas will be evaluated in the springtime when there is no snow cover to determine specific locations where amendments will be necessary. Following this evaluation, a final work plan document will be prepared and submitted to MDEQ for review and approval incorporating one or more of the following actions:
 - Interim Cover Materials – These actions will include the placement of topsoil and ground cover vegetation (such as grass), sand, and/or mulch in specific locations identified following a site reconnaissance in the spring of 2004.
 - Interim Actions Designed to Meet Criteria – Depending on the results of the spring site reconnaissance survey, Dow may elect to install cover materials that are

designed to meet criteria (in accordance with Part 201 guidance). The cover would consist of the following conceptual design:

For areas with average use (e.g., picnic areas, shelters)

- A barrier layer (e.g., flagging) will be placed over the area to serve to alert individuals that may conduct intrusive activities in the park
- 6 inches of clean topsoil will be placed on top of the barrier layer
- Grass or sod will be placed on top of the topsoil

For areas with intensive use (e.g., playground areas)

- A barrier layer (e.g., flagging) will be placed over the area to serve to alert individuals that may conduct intrusive activities in the park
- 24 or 30 inches of clean topsoil will be placed on top of the barrier layer
- Grass, sod or other material (e.g., wood chips) appropriate for the use of the location will be put on top of the topsoil

An Operations and Maintenance (O&M) plan will be implemented to maintain these actions. The O&M plan will include regular inspections and maintenance activities required to maintain the barriers.

Details of the barrier installation as well as the inspection and maintenance plan will be submitted as part of a final design package.

Park officials have agreed to have these items completed as soon as feasible. Dow will reimburse the township for the costs incurred as a result of implementing these IRAs.

A brief report summarizing these IRAs will be submitted to MDEQ once they are completed.

7. Schedule

The estimated schedule is presented in Attachment G of the Statement of Work (SOW) for the Tittabawassee River Sediment and Floodplain and includes the following activities:

- Site reconnaissance survey in the spring of 2004 to identify specific areas requiring vegetative cover materials
- Preparation and submittal of final design package
- MDEQ approval of final design
- Preparation and submittal of completion report
- O&M

8. References

Michigan Department of Environmental Quality. 2003. Phase II Tittabawassee/Saginaw River Dioxin Flood Plain Sampling Study, June 2003.

United States Department of Agriculture, Soil Conservation Service. 1994. Soil Survey of Saginaw County, Michigan.

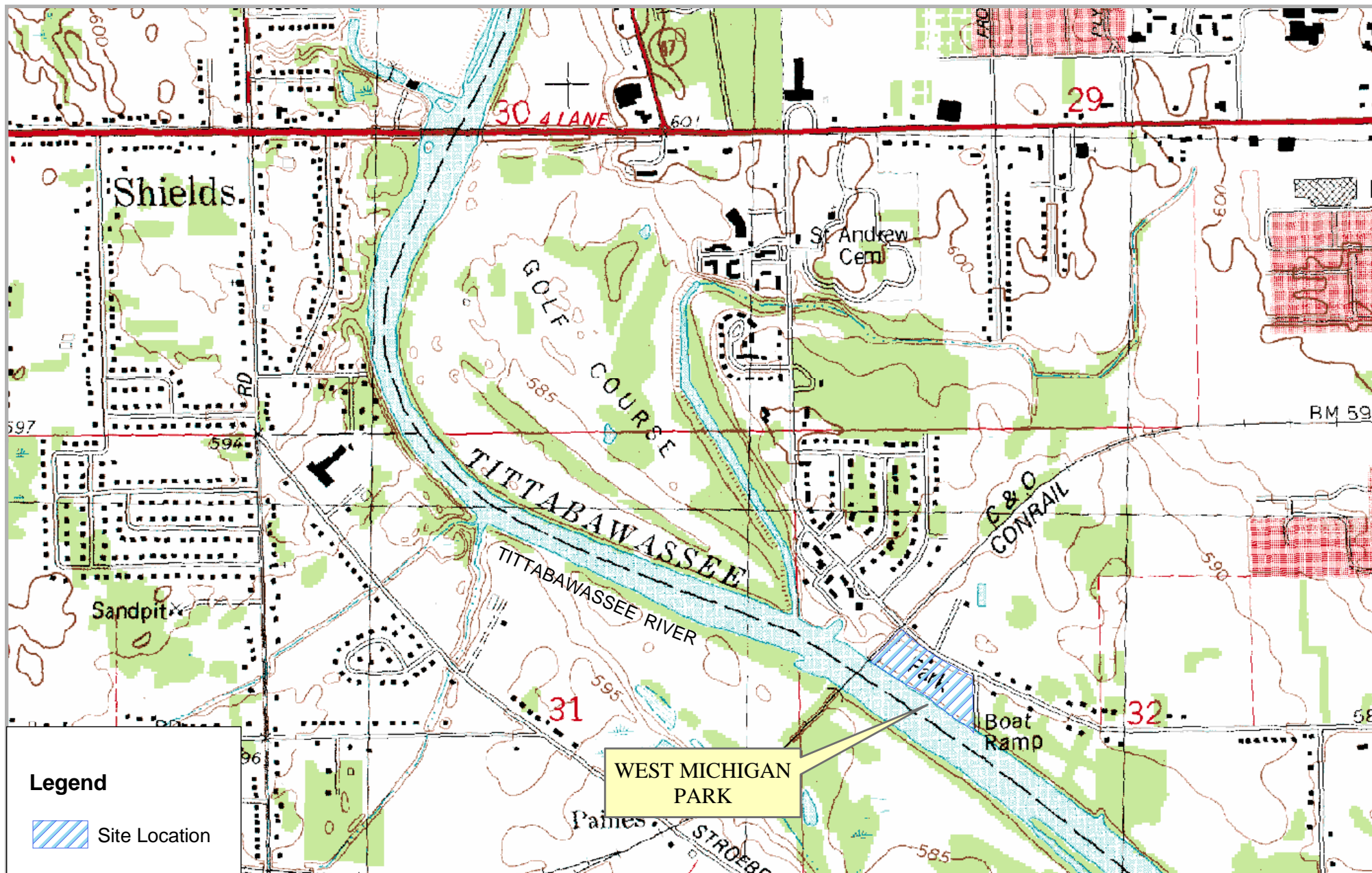


Figure 1
Location of West Michigan Park
 Interim Response Activities Workplan: West Michigan Park
 Dow Midland Offsite Corrective Action Program

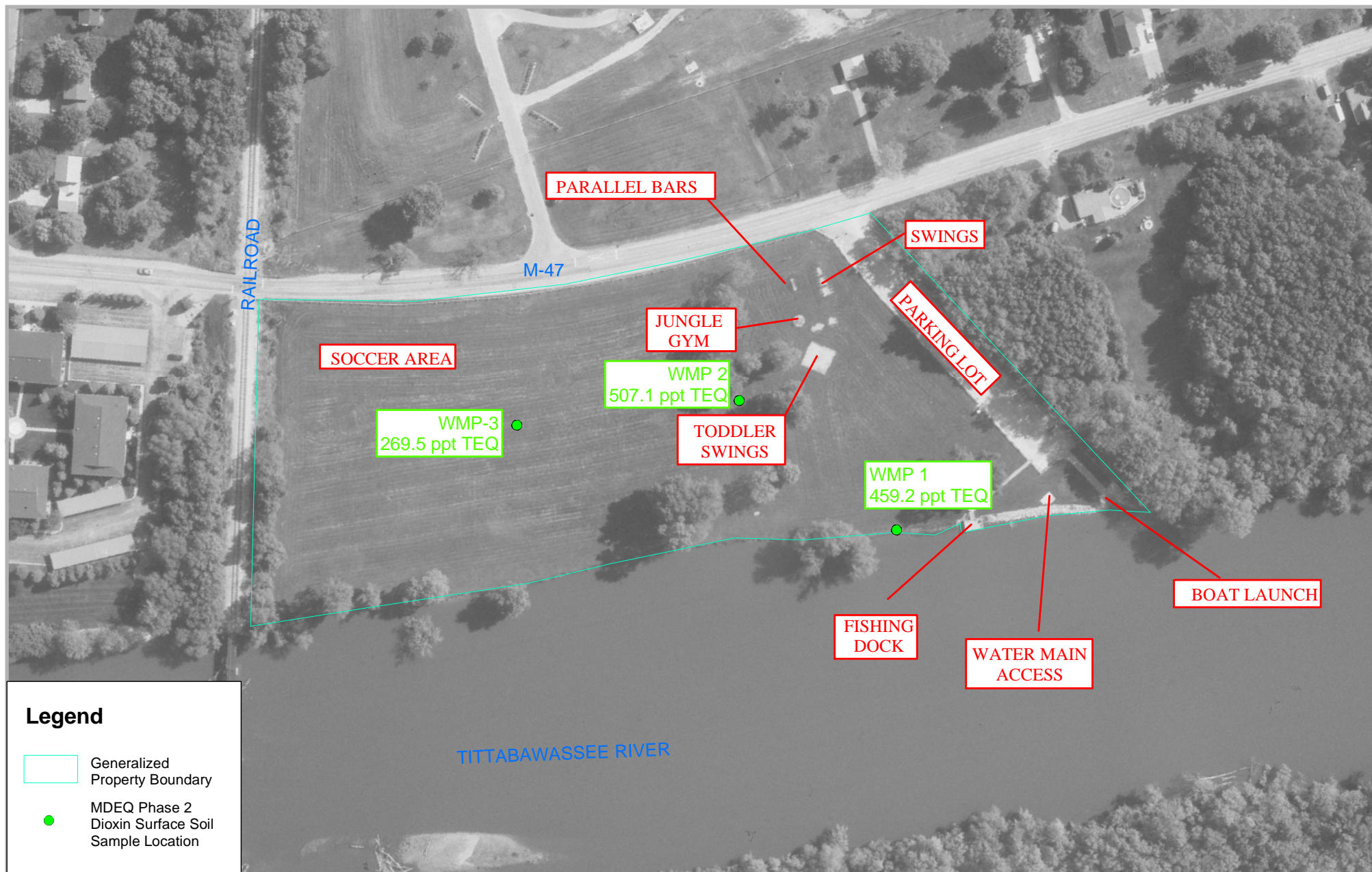


Figure 2
Features at West Michigan Park
 Interim Response Activities Workplan: West Michigan Park
 Dow Midland Offsite Corrective Action Program

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